



SEQUENCE LISTING

INS
A
CONTD.
<110> Sakowicz, Roman
Goldstein, Lawrence S. B.
The Regents of the University of California

<120> Identification and Expression of a Novel Kinesin Motor
Protein

<130> 18557C-000710US

<140> US 09/235,416
<141> 1999-01-22

<150> WO PCT/US99/01355
<151> 1999-01-22

<150> US 60/072,361
<151> 1998-01-23

<160> 7

<170> PatentIn Ver. 2.0

<210> 1
<211> 784
<212> PRT
<213> Thermomyces lanuginosus

<220>
<223> TL-gamma ATP-dependent plus end-directed
microtubule motor protein

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<221> DOMAIN
<222> (1)..(357)
<223> kinesin-like microtubule motor domain

<220>
<221> DOMAIN
<222> (358)..(442)
<223> neck domain links motor domain to stalk domain

<220>
<221> DOMAIN
<222> (443)..(601)
<223> stalk domain, unc-104 family domain

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<222> (602)..(784)
<223> tail domain

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 <223> polymorphic variant #2 Asp -> Glu

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 35 40 45

Arg Lys Ser Gly Lys Thr Ile Met Asp Gly Pro Lys Ala Phe Ala Phe
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Asp Arg Ser Tyr Trp Ser Phe Asp Lys Asn Ala Pro Asn Tyr Ala Arg
 65 70 75 80

Gln Glu Asp Leu Phe Gln Asp Leu Gly Val Pro Leu Leu Asp Asn Ala
 85 90 95

Phe Lys Gly Tyr Asn Asn Cys Ile Phe Ala Tyr Gly Gln Thr Gly Ser
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Gly Lys Ser Tyr Ser Met Met Gly Tyr Gly Lys Glu His Gly Val Ile
 115 120 125

Pro Arg Ile Cys Gln Asp Met Phe Arg Arg Ile Asn Glu Leu Gln Lys
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Asp Lys Asn Leu Thr Cys Thr Val Glu Val Ser Tyr Leu Glu Ile Tyr
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Asn Glu Arg Val Arg Asp Leu Leu Asn Pro Ser Thr Lys Gly Asn Leu
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Lys Val Arg Glu His Pro Ser Thr Gly Pro Tyr Val Glu Asp Leu Ala
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Lys Leu Val Val Arg Ser Phe Gln Glu Ile Glu Asn Leu Met Asp Glu
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Gly Asn Lys Ala Arg Thr Val Ala Ala Thr Asn Met Asn Glu Thr Ser
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Ser Arg Ser His Ala Val Phe Thr Leu Thr Leu Thr Gln Lys Trp His
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Asp Glu Glu Thr Lys Met Asp Thr Glu Lys Val Ala Lys Ile Ser Leu
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Val Asp Leu Ala Gly Ser Glu Arg Ala Thr Ser Thr Gly Ala Thr Gly
 260 265 270

Ala Arg Leu Lys Glu Gly Ala Glu Ile Asn Arg Ser Leu Ser Thr Leu
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Gly Arg Val Ile Ala Ala Leu Ala Asp Met Ser Ser Gly Lys Gln Lys
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Lys Asn Gln Leu Val Pro Tyr Arg Asp Ser Val Leu Thr Trp Leu Leu
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Lys Asp Ser Leu Gly Gly Asn Ser Met Thr Ala Met Ile Ala Ala Ile
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Ser Pro Ala Asp Ile Asn Phe Glu Glu Thr Leu Ser Thr Leu Arg Tyr
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Ala Asp Ser Ala Lys Arg Ile Lys Asn His Ala Val Val Asn Glu Asp
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Pro Asn Ala Arg Met Ile Arg Glu Leu Lys Glu Glu Leu Ala Gln Leu
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Ser Lys Ala Glu Ile Val Glu Gln Leu Asn Gln Ser Glu Lys Leu Tyr
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Arg Asp Leu Asn Gln Thr Trp Glu Glu Lys Leu Ala Lys Thr Glu Glu
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Ile His Lys Glu Arg Glu Ala Ala Leu Glu Glu Leu Gly Ile Ser Ile
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Glu Lys Gly Phe Val Gly Pro Tyr His Ser Lys Glu Met Pro His Leu
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Ile Lys Pro Gly Gln Thr Arg Val Gly Asn Val Asn Gln Asp Thr Gln
 515 520 525

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Phe Glu Asn Val Asp Asn Val Val Thr Ile Val Pro Asn Glu Lys Ala
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Ser Gly Tyr Arg Ile Ile Leu Gly Asp Phe His Ile Phe Arg Phe Asn
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Asp Arg Thr Leu Ser Lys Ala Gly Ser Asp Ala Asp Gly Asp Ser Arg
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Ser Asp Ser Pro Leu Pro His Phe Arg Gly Lys Asp Ser Asp Trp Phe
645 650 655

Tyr Ala Arg Arg Glu Ala Ala Ser Ala Ile Leu Gly Leu Asp Gln Lys
660 665 670

Ile Ser His Leu Thr Asp Asp Glu Leu Asp Ala Leu Phe Asp Asp Val
 675 680 685

Gln Lys Ala Arg Ala Val Arg Arg Gly Leu Val Glu / Asp Asn Glu Asp
690 695 700'

Ser Asp Ser Gln Ser Ser Phe Pro Val Arg Asp Lys Tyr Met Ser Asn
705 710 715 720

Gly Thr Ile Asp Asn Phe Ser Leu Asp Thr Ala Ile Thr Met Pro Gly
725 730 // / / / 735

Thr Pro Arg Ser Asp Asp Asp Gly Asp Ala Leu Phe Phe Gly Asp Lys
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<220>
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microtubule motor protein

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 aagcaggaat tc 2352

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

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A
CONC'D
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<220>
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reverse primer

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<223> n = a, c, g or t

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